1. A method of optimizing the performance of a connection in a wavelength switched optical network, comprising:

for all wavelengths available for transporting user signals in said network, storing wavelength performance data in a wavelength performance database;

selecting a path with one or more regenerator sections; and

assigning a set of wavelengths to said path based on said wavelength performance data.

2. A method as claimed in claim 1, wherein said step of assigning comprises:

(a) for each regenerator section of said path, selecting a wavelength from said wavelength performance database based on connectivity data for said regenerator section available from a topology database;

(b) determining a path performance parameter;

(c) establishing said connection along said path whenever said path performance parameter is better than a threshold; and

(d) otherwise, selecting a further path and repeating steps a) to c).

3. A method as claimed in claim 2, wherein said path performance parameter is the Q factor.

4. A method as claimed in claim 2, wherein said step of determining comprises:

identifying all optical devices connected in said path from said topology database;

importing measured performance data for said path and device specifications for said optical devices; and

calculating said path performance parameter using said measured performance data and said device specifications.

5. A method as claimed in claim 1, wherein said wavelength performance data comprises a correspondence between attainable reach for each wavelength available in said network and a plurality of fiber types.

6. A method as claimed in claim 5, wherein said wavelength performance data further includes launch power-reach information for all wavelengths available in said network.

7. A method as claimed in claim 1, wherein said step of storing includes grouping all wavelengths available in said network into bins of reach, each bin corresponding to a different range of reach distances, and categorizing the wavelengths within a bin by fiber type.

8. A method as claimed in claim 1, further comprising determining a worst performing wavelength of said set of wavelengths and upgrading said connection by replacing said worst performing wavelength.

9. A method as claimed in claim 2, wherein said wavelength performance data includes the wavelength natural reach for all wavelengths available in said network for a plurality of fiber types, and said connectivity data includes the length of said regenerator section.

10. In a wavelength switched optical network, a method of assigning a set of wavelengths to a path with one or more regenerator sections, comprising:

assigning a wavelength to a regenerator section based on the length of said regenerator section and wavelength performance data;

determining a regenerator section performance parameter for each said regenerator section and a path performance parameter for said path;

attempting to establish a connection along said path whenever said path performance parameter is within a range defining a specified class of service.

11. A method as claimed in claim 10, further comprising:

for a specified regenerator section of said path, modifying operation of a selected wavelength for increasing the reach of said selected wavelength; and

controlling operation of all other wavelengths passing through said specified regenerator section for maintaining a respective wavelength performance data for said respective other wavelengths within a respective range.

12. A method as claimed in claim 11, wherein said step of modifying comprises adjusting a tunable parameter of a device of said specified regenerator section.

13. A method as claimed in claim 12, wherein said tunable parameter is one of gain, dispersion or both.

14. A method as claimed in claim 11, wherein said step of modifying comprises controlling the launch power of said selected wavelength.

15. A method as claimed in claim 10, wherein said step of assigning comprises mapping a transmitter to said wavelength according to reach performance of said transmitter.

16. A method as claimed in claim 10, wherein said step of assigning comprises mapping a receiver to said wavelength according to the performance of said receiver.

17. A method as claimed in claim 10, further comprising replacing said selected wavelength with a different wavelength from a different transmission band from that of said selected wavelength.

18. A method of optimizing connections in a wavelength switched optical network, comprising:

determining a reach-wavelength correspondence for all wavelengths available for transporting user signals in said network and storing said correspondence in a wavelength performance database;

measuring a performance parameter for each wavelength available in said network and storing said measured performance parameter in a measurement database, together with link and wavelength identification information; and

assigning a set of wavelengths to a path according to said correspondence and said measured performance parameter.

19. A method as claimed in claim 18 wherein said step of measuring comprises, for each node of said network:

determining all free wavelengths that are not used for live traffic exiting said node;

for each said free wavelength, setting up a test connection between a transmitter at said node and a next receiver; and

measuring said performance parameter for all said test connections.

20. A method as claimed in claim 19, further comprising storing said performance parameter in a measurement database.

21. In a network and element management system of the type including a routing platform, a connection optimization system comprising:

a wavelength performance database for storing wavelength performance data for each wavelength available in said network; and

a performance calculator for calculating a path performance parameter based on network connectivity information and measured path performance data;

wherein said routing platform establishes a connection along a path selected based on said wavelength performance data and said path performance parameter.

22. A system as claimed in claim 21, wherein said path performance parameter includes the cost of said path and the Q factor of said path.

23. A system as claimed in claim 21 further comprising:

a measurement database for storing measured performance data for each regenerator section of said network; and

an interface between said measurement database and a plurality of optical devices of said network for transmitting said measured performance data from said devices to said measurement database.

24. A system as claimed in claim 21, further comprising a wavelength exerciser for setting-up test connections on all regenerator sections, for each wavelength unused on said regenerator section to populate said measurement database with measured data.

25. A method of optimizing connections in a wavelength switched optical network, comprising:

connecting an optical signal analyzer to a plurality of measurement points in said network for automatically collecting on-line measured performance data; and

selecting a path for a connection based on said measured performance data.

26. A method as claimed in claim 25, further comprising collecting a plurality of further performance data from an optical device connected in said path.

27. A method as claimed in claim 26, wherein said optical device is an optical amplifier and said further performance data is one or more of span gain/loss, power level and reflections level.

28. A method as claimed in claim 26, wherein said optical device is an optical amplifier and said further performance data is one or both of the Raman power and Raman gain.

29. A method as claimed in claim 26, wherein said optical device is a transmitter and said further performance data is the launch power.

30. A method as claimed in claim 26, wherein said optical device is a receiver and said further performance data is one or more of the sensitivity level, BER, Q factor, and eye opening.

31 ~~32~~. A method as claimed in claim 26, wherein said optical device is a receiver and said further performance data is the link chromatic dispersion.

32 ~~33~~. A method as claimed in claim 25, wherein said measured performance data include power levels and noise levels measured in each said respective measurement point for each wavelength traveling along said path.

33 ~~34~~. A method of optimizing connections in a wavelength switched optical network, comprising:

for a regenerator section of a path, modifying operation of a specified wavelength for increasing the reach of said selected wavelength; and

controlling operation of all other wavelengths passing through said specified regenerator section for maintaining the performance data of each said all other wavelengths on said paths within a respective range.

34 ~~35~~. A method as claimed in claim 33, wherein said step of modifying comprises adjusting the launch power of said specified wavelength until a performance parameter of said regenerator section is within an operational range.

35 ~~36~~. A method as claimed in claim 33 ~~34~~, wherein said step of modifying comprises changing the gain/loss of said specified wavelength.

36 ~~37~~. A method as claimed in claim 33 ~~34~~, wherein said step of controlling includes selecting said other wavelengths to provide greater wavelength spacing.